Title (en)

WIRELESS COMMUNICATIONS DEVICE PROVIDING ENHANCED BLOCK EQUALIZATION AND RELATED METHODS

Title (de)

DRAHTLOSE KOMMUNIKATIONSEINRICHTUNG ZUR BEREITSTELLUNG VERBESSERTER BLOCKENTZERRUNG UND DIESBEZÜGLICHE VERFAHREN

Title (fr)

DISPOSITIF DE COMMUNICATION SANS FIL FOURNISSANT UNE EGALISATION DE BLOC AMELIOREE ET PROCEDES ASSOCIES

Publication

EP 1854205 A2 20071114 (EN)

Application

EP 06734358 A 20060206

Priority

- US 2006003980 W 20060206
- US 5415805 A 20050209

Abstract (en)

[origin: US2006176983A1] A wireless communications device may include a wireless receiver receiving wireless signals having alternating known and unknown symbol portions over a channel, and a demodulator systolic array connected to the wireless receiver. The demodulator systolic array may include: a channel estimation module generating respective channel estimates for each unknown symbol portion based upon the known symbol portions; an autocorrelation module generating autocorrelation matrices based upon the channel estimates; a channel match filter module generating respective channel matching coefficients for the unknown symbol portions; a factorization module dividing the autocorrelation matrices into respective upper and lower autocorrelation matrices; a transformation module transforming the channel matching coefficients into upper and lower channel matching coefficients; and a back-substitution module determining the unknown symbol portions by estimating the unknown symbol portions based upon respective upper autocorrelation matrices and channel matching coefficients, respective lower autocorrelation matrices and channel matching coefficients, and combining the estimates.

IPC 8 full level

H03D 1/00 (2006.01); **H03H 7/30** (2006.01); **H03K 9/00** (2006.01); **H04L 27/06** (2006.01)

CPC (source: EP US)

H04L 25/0232 (2013.01 - EP US); **H04L 25/0246** (2013.01 - EP US)

Citation (search report)

See references of WO 2006086254A2

Designated contracting state (EPC)

DE FI FR GB IT TR

DOCDB simple family (publication)

US 2006176983 A1 20060810; **US 7433430 B2 20081007**; CA 2596180 A1 20060817; CN 101138151 A 20080305; EP 1854205 A2 20071114; IL 185001 A0 20071203; JP 2008532354 A 20080814; WO 2006086254 A2 20060817; WO 2006086254 A3 20061026

DOCDB simple family (application)

US 5415805 A 20050209; CA 2596180 A 20060206; CN 200680008120 A 20060206; EP 06734358 A 20060206; IL 18500107 A 20070802; JP 2007555142 A 20060206; US 2006003980 W 20060206